Amendments to the Specification:

- On page 1 of the specification, immediately preceding line 5, please insert a space followed by the heading:

Field of the Invention

- On page 1 of the specification, immediately preceding line 11, please insert a space followed by the heading:

Background of the Invention

- On page 8 of the specification, immediately preceding line 25, please insert a space followed by the heading:

Summary of the Invention

- On page 11 of the specification, immediately preceding line 6, please insert a space followed by:

Brief Description of the Drawings

Figure 1 shows a schematic representation of a method of nucleic acid colony generation according to an embodiment of the invention.

Figure 2 is a schematic representation of template preparation and subsequent attachment to the solid surface. In Figure 2a the preparation of Templates A, B and B' containing colony primer sequences is shown. In Figure 2b the chemical attachment of colony primers and templates to glass surface is shown.

Figure 3 shows the number of colonies observed per 20X field as a function of the concentration of template bound to a well.

Figure 4 illustrates discrimination between colonies originated from two different

templates. Figure 4a shows the images of colonies made from both templates and negative controls; Figure 4b shows the colonies from both templates at the same position in the same well visualised with two different colours and negative controls; Figure 4c shows the coordinates of both colony types in a sub-section of a microscopy field; and Figure 4d demonstrates that colonies from different templates do not coincide.

Figure 5 shows reaction schemes for template or oligonucleotide attachment on glass.

Figure 6 shows the number of colonies observed per 20X field as a function of the concentration of template bound to a well. DNA templates were bound at different concentrations either via the mediated coupling reagent (EDC) on amino derivatized glass surface (A) or on s-MBS functionalized glass surface (B).

Figure 7 shows an example of in situ sequencing from DNA colonies generated on glass. Figure 7A shows the result after incubation with Cy5™-dCTP on a sample that has not been incubated with primer p181; Figure 7B shows the result after incubation with Cy5™-dUTP on a sample that has been incubated with primer p181; Figure 7C shows the result after incubation with Cy5™-dCTP on a sample that has been incubated with primer p181.

Figure 8 shows hybridization of probes to oligonucleotides attached to Nucleolink, before and after PCR cycling. The figure shows R58 hybridization to CP2 (5'-(phosphate)-TTTTTTTTTTAGAAGGAGAAGGAAAGGGAAAGGG), closed circles; CP8 (5'(amino-hexamethylene)- TTTTTTTTTTAGAAGGAGAAGGAAAGGGAAAGGG), closed triangles; CP9 (5'(hydroxyl)-TTTTTTTTTTAGAAGGAGAAGGAAAGGGAAAGGG), diamonds; CP10 (5'(dimethoxytrityl)-TTTTTTTTTTAGAAGGAGAAGGAAAGGGAAAGGG), open circles; and CP11 (5'(biotin)-TTTTTTTTTTAGAAGGAGAAGGAAAGGGAAAGGG), open triangles.

Detailed Description of the Invention